

Claims:

1. An electroless processing system, comprising:
an interface section having a substrate transfer robot positioned thereon; and
an electroless processing module positioned in communication with the interface section, the electroless processing module comprising:
a processing enclosure;
an electroless activation cell positioned in the enclosure;
an electroless deposition cell positioned in the enclosure; and
an enclosure robot configured to transfer substrates between the activation cell and the deposition cell.
2. The electroless processing system of claim 1, wherein the electroless activation cell and the electroless deposition cell comprise face up processing cells.
3. The electroless processing system of claim 2, wherein the activation cell and the deposition cell each comprise:
a rotatable substrate support member configured to support a substrate in a configuration such that a production surface of the substrate is facing away from the substrate support member;
a fluid dispensing arm movably positioned to dispense a processing fluid onto the production surface of the substrate.
4. The electroless processing system of claim 3, further comprising means for centering the substrate on the substrate support member.
5. The electroless processing system of claim 1, further comprising at least one substrate cleaning cell positioned in communication with the interface section.

6. The electroless processing system of claim 5, wherein the at least one substrate cleaning cell comprises at least one of a spin rinse dry cell and a substrate bevel clean cell.
7. The electroless processing system of claim 1, wherein the electroless activation cell is configured to selectively dispense at least one of a substrate precleaning solution and an electroless activation solution onto the substrate.
8. The electroless processing system of claim 1, wherein the electroless deposition cell is configured to selectively dispense at least one of an electroless deposition solution and a substrate post deposition cleaning solution onto the substrate.
9. The electroless processing system of claim 1, wherein the electroless processing module is removable from the interface section.
10. The electroless processing system of claim 1, further comprising a selectively actuatable access valve positioned in the enclosure to allow for access into a processing volume of enclosure by the substrate transfer robot.
11. An electroless processing system, comprising:
 - a processing enclosure positioned in communication with a processing platform;
 - a substrate transfer robot positioned in the enclosure;
 - a first fluid processing cell positioned in the enclosure, the first fluid processing cell being configured to dispense at least one of an electroless precleaning solution and an electroless activation solution onto the substrate; and
 - a second fluid processing cell positioned in the enclosure, the second fluid processing cell being configured to dispense at least one of an electroless deposition solution and an electroless post cleaning solution onto the substrate.

PATENT

Attorney Docket No.: AMAT/7164.C1/CMP/ECP/RKK

Express Mail No.: EV351031985US

12. The electroless processing system of claim 11, wherein the first and second fluid processing cells comprises:

a rotatable substrate support member;

a fluid dispensing arm movably positioned to dispense processing fluids onto the substrate; and

a substrate centering member positioned radially outward of the support member.

13. The electroless processing system of claim 12, wherein the substrate support member is configured to support a substrate in an orientation such that a plating surface of the substrate is facing away from the substrate support member.

14. The electroless processing system of claim 13, wherein the substrate support member comprises a vacuum chuck.

15. The electroless processing system of claim 13, wherein the substrate support member has an outer diameter that is smaller than an outer diameter of the substrate being processed.

16. The electroless processing system of claim 12, wherein the substrate centering member comprises a plurality of eccentric rotatable centering posts positioned radially around a central axis of the substrate support member.

17. The electroless processing system of claim 11, wherein the processing enclosure is detachably positioned in communication with the processing platform.

18. The electroless processing system of claim 11, further comprising an access valve positioned in the processing enclosure, the access valve being configured to allow a processing platform robot access into the processing enclosure.

19. An electroless processing system, comprising:

PATENT

Attorney Docket No.: AMAT/7164.C1/CMP/ECP/RKK

Express Mail No.: EV351031985US

a primary substrate transfer robot positioned on a mainframe; and
at least one electroless processing enclosure positioned on the mainframe,
the electroless processing enclosure comprising
a sealable enclosure defining a processing volume and having at least
one selectively actuated access door;
a first fluid processing cell positioned on the processing volume and
configured to apply at least one of an electroless activation solution and a cleaning
solution to a substrate;
a second fluid processing cell positioned in the processing volume and
configured to apply an electroless plating solution to the substrate; and
a substrate shuttle positioned between the first and second fluid
processing cells in the processing volume, the shuttle being configured to transfer
substrates between the first and second fluid processing cells.

20. The processing system of claim 19, further comprising a gas delivery system
in fluid communication with an interior volume of the enclosure.